

TECHNICAL INSIGHT

INTEGRATED PEST MANAGEMENT AND TURF ESTABLISHMENT

Threats and opportunities in pest, weed and disease control

With the pressure increasing to reduce chemical inputs and pesticides in sport, turf managers are adapting to the challenge of maintaining elite surfaces in a way that is sustainable and future proof

BY DR CHRISTIAN SPRING, PRINCIPAL SCIENTIST, STRI GROUP

With grounds teams across the UK keeping a close eye on how Europe is adapting to potential regulations on the reduction of plant protection products (PPPs), it's important to understand the threats and the opportunities that lie ahead for the sports industry.

The European Commission has committed to a 50 per cent reduction in the use and risk of chemical pesticides, as well as a 50 per cent reduction of more hazardous pesticides (that is, those that are on the list of candidates for substitution). These are part of the Farm to Fork and Biodiversity strategies, and the intention is to promote holistic and integrated management of pests, weeds and diseases across all industries.

This resulted in potential legislation being put forward (the Sustainable Use Regulation), which would have a significant impact on sportsturf management, as they propose a complete ban on the use of conventional

PPPs on sportsturf, while potentially allowing the use of low-risk and biological products. This would have driven immediate change if passed. This legislation was defeated in the European Parliament, but the overall strategy remains.

Taking a leading role in sport's response to the proposed legislation, the STRI Group was commissioned by the Union of European Football Associations (UEFA) and the European Golf Association (EGA) to conduct research and carry out an impact assessment report on the reduction of PPPs, and to share insights on the best practices as part of integrated turf management (ITM).

The impact assessment looked at how the withdrawal of PPPs would have affected turf and its management, while presenting a balanced view of how ITM is being used by sportsturf managers and what would be needed to continue down the pathway of further PPP reductions.

HOW WILL THE LEGISLATION CHANGE AFFECT TURFCARE PROFESSIONALS?

It is important to remember that legislation on pesticides has continued to evolve over the years, leading to increased availability of lower-risk products and the promotion of integrated approaches to pest management.

When further restrictions eventually come into force in the EU, there will be direct impacts on EU countries. However, those outside the EU will also feel the indirect impacts due to potential reduction in the availability of PPPs on the market.

How turf managers deal with pests, weeds and diseases has already changed

BY ADOPTING LONG-TERM MANAGEMENT AND EDUCATION APPROACHES, ITM WILL BE KEY



Above: Leatherjackets can be controlled biologically using nematodes

Right: Going back to soil basics to ensure healthy turf is a good place to start

through greater use of ITM, and will continue to change as potential legislation comes into play.

By adopting long-term management and education approaches, and making full use of the support available, ITM will be key.

IT'S TIME TO START PREPARING

Ensuring a strategy is in place for the future has never been more important. At its core, ITM is about trying to find the natural balance between the soil environment, biology

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Above, from left to right: Weeds such as dandelions can be a real problem for turfcare professionals; aerial view of the STRI trials ground; chemical controls are the last line of defence

Below: Pest, weed and disease prevention plan

and producing functional and high-quality sports surfaces.

PREVENTION IS BETTER THAN CURE

■ **Prevention**

It doesn't matter whether you have a pest, weed or

disease problem, or have had problems in the past, prevention is about drilling down into the root causes of an issue and tackling them. If we don't create the conditions that favour pests, weeds and diseases, they will

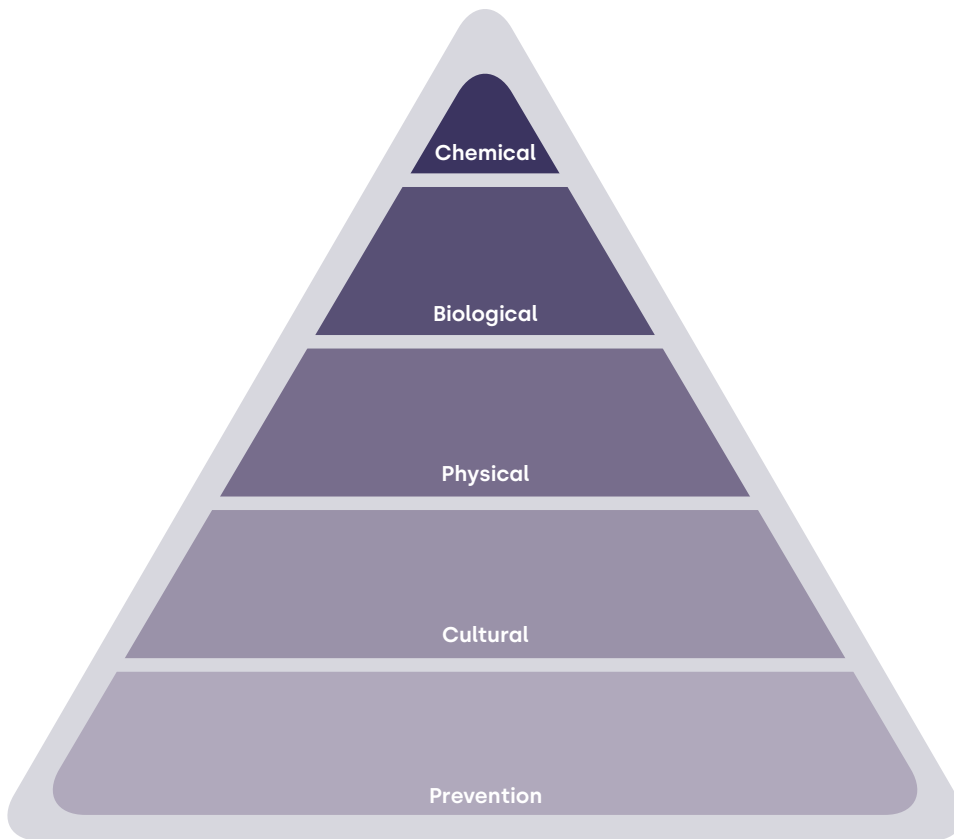
find it difficult to persist in that area and therefore not affect our turf. Often this means creating a healthy growing environment for the grass and ensuring the turf is strong and robust.

■ **Cultural**

There are a wide range of cultural practices that can help prevent pest, weeds and diseases from affecting turf. These often revolve around following best practice turf maintenance such as appropriate fertiliser application (not too much, not too little and with judicious inputs when the plant needs it); irrigation practices (optimum water input to keep the plant healthy but don't over or under water); or choosing more tolerant or resistant grass varieties where issues are known to occur.

■ **Physical**

Physical methods tend to relate to mechanisms that either physically affect the growing environment; provide a barrier or other physical impediment to a pest, weed or disease; or involve the physical removal





of the problem. Examples would be aeration to reduce excessive thatch, which can provide a habitat for many turf diseases; ensuring mower blades are sharp so that wounds (points of entry for disease) heal quicker, reducing exposure time; and hand weeding if weeds start to appear rather than allowing the weeds to establish and set seed.

■ **Biological**

Biological solutions are becoming a growing tool for turf managers. Whether it is the use of nematodes to help manage young insect larvae or bacteria/fungi that control/inhibit fungal pathogens, biologicals will continue to grow in importance in turf management. These are likely to be the type of solutions that legislators will be amenable for turf managers to continue to use in future.

■ **Chemical**

The last line of defence are PPPs. These are highly effective and have undergone extensive and lengthy testing for not only their efficacy, but also their impact on organisms, the environment

and human health. However, these tools need to be used according to best practice, with the aim being to reduce the need to use them at all.

THE FUTURE

It is vital that the sports industry takes its future in its own hands, and leads the way on integrated management and managing turf with minimal PPP usage.

Waiting and doing nothing is not an option – and critical thinking is essential. As an industry we must engage with all stakeholders, including regulators and legislators. We need to demonstrate the good work that is being done by turf managers and, critically, we must be able to quantify actions towards reductions in PPP use. Assess the problem, implement a plan, monitor the effectiveness then review and adjust as needed.

Solutions are out there to help tackle plant pests, weeds and diseases. They will not have the one-hit effect of a PPP, but in combination they are the way ITM will need to be practised. Working with the natural environment is ultimately the key.

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